**Simple Calculator Project in JBOSS EAP 5:**

**1. example.jar**

**A. CalculatorBean.java**

|  |
| --- |
| package net.roseindia.ejb3.stateless;  import java.math.\*;  import java.rmi.RemoteException;  import javax.ejb.\*;  @Stateless(name="CalculatorBean")  @Local(CalculatorLocal.class)  //public class CalculatorBean implements CalculatorLocal  public class CalculatorBean implements javax.ejb.SessionBean  {  @Override  public void setSessionContext(SessionContext ctx)  {  }  public void ejbCreate() throws CreateException{    System.out.println("EJB CREATED");  }  public float add(float x, float y)  {  return x + y;  }  public float subtract(float x, float y)  {  return x - y;  }  public float multiply(float x, float y)  {  return x \* y;  }  public float division(float x, float y)  {  return x / y;  }  @Override  public void ejbActivate() throws EJBException, RemoteException {  // TODO Auto-generated method stub    }  @Override  public void ejbPassivate() throws EJBException, RemoteException{  // TODO Auto-generated method stub    }  @Override  public void ejbRemove() throws EJBException, RemoteException{  // TODO Auto-generated method stub    }  } |

**B. CalculatorHome.java**

|  |
| --- |
| package net.roseindia.ejb3.stateless;  import javax.ejb.CreateException;  import javax.ejb.EJBLocalHome;  import javax.ejb.SessionBean;  import javax.ejb.EJBHome;  import javax.ejb.\*;  public interface CalculatorHome extends javax.ejb.EJBLocalHome  {  public CalculatorLocal create() throws CreateException;  } |

**C. CalculatorLocal.java**

|  |
| --- |
| package net.roseindia.ejb3.stateless;  import java.math.\*;  import javax.ejb.Local;  import javax.ejb.Remote;  import java.lang.annotation.\*;  import java.util.\*;  import javax.ejb.\*;  import java.rmi.\*;  @Local  public interface CalculatorLocal extends javax.ejb.EJBLocalObject  {  public float add(float x, float y);  public float subtract(float x, float y);  public float multiply(float x, float y);  public float division(float x, float y);  } |

**D. ejb-jar.xml**

|  |
| --- |
| <?xml version=*"1.0"* encoding=*"UTF-8"*?>  <!DOCTYPE ejb-jar PUBLIC "-//Sun Microsystems, Inc.//DTD Enterprise JavaBeans 2.0//EN" "http://java.sun.com/dtd/ejb-jar\_2\_0.dtd">  <ejb-jar >  <description>calculator modules</description>  <display-name>calculator Modules</display-name>  <enterprise-beans>  <!-- Session Beans -->  <!-- This bean verifies the login-->  <session >  <!-- This bean is for new user account registration -->  <description>This claculator Application</description>  <ejb-name>CalculatorBean</ejb-name>  <local-home>net.roseindia.ejb3.stateless.CalculatorHome</local-home>  <local>net.roseindia.ejb3.stateless.CalculatorLocal</local>  <ejb-class>net.roseindia.ejb3.stateless.CalculatorBean</ejb-class>  <session-type>Stateless</session-type>  <transaction-type>Container</transaction-type>  <ejb-local-ref >  <ejb-ref-name>CalculatorBean</ejb-ref-name>  <ejb-ref-type>Session</ejb-ref-type>  <local-home>net.roseindia.ejb3.stateless.CalculatorHome</local-home>  <local>net.roseindia.ejb3.stateless.CalculatorLocal</local>  </ejb-local-ref>  </session>    <!--  To add session beans that you have deployment descriptor info for, add  a file to your merge directory called session-beans.xml that contains  the <session></session> markup for those beans.  -->  <!-- Entity Beans -->  <!--  To add entity beans that you have deployment descriptor info for, add  a file to your merge directory called entity-beans.xml that contains  the <entity></entity> markup for those beans.  -->  <!-- Message Driven Beans -->  <!--  To add message driven beans that you have deployment descriptor info for, add  a file to your merge directory called message-driven-beans.xml that contains  the <message-driven></message-driven> markup for those beans.  -->      </enterprise-beans>  <!-- Relationships -->  <!-- Assembly Descriptor -->  <assembly-descriptor >  <!-- finder permissions -->  <!-- transactions -->  <container-transaction >  <method >  <ejb-name>CalculatorBean</ejb-name>  <method-name>\*</method-name>  </method>  <trans-attribute>Required</trans-attribute>  </container-transaction>    <!-- finder transactions -->  </assembly-descriptor>  </ejb-jar> |

**D. jboss.xml**

|  |
| --- |
| <?xml version=*"1.0"* encoding=*"UTF-8"*?>  <!-- <!DOCTYPE jboss PUBLIC "-//JBoss//DTD JBOSS//EN" "http://www.jboss.org/j2ee/dtd/jboss.dtd">-->  <jboss xmlns:xs=*"http://www.jboss.org/j2ee/schema"*  xs:schemaLocation=*"http://www.jboss.org/j2ee/schema/jboss\_5\_0.xsd"*  version=*"5.0"*>  <enterprise-beans>  <session>  <ejb-name>CalculatorBean</ejb-name>  <local-jndi-name>CalculatorBean</local-jndi-name>  </session>  </enterprise-beans>  </jboss> |

**2. exampleweb.war :**

**A. Form.jsp**

|  |
| --- |
| <html>  <head>  <title>Calculator</title>  </head>  <body bgcolor=*"pink"*>  <h1>Calculator</h1>  <hr>  <form action=*"WebClient.jsp"* method=*"POST"*>  <p>Enter first value:  <input type=*"text"* name=*"num1"* size=*"25"*></p>  <br>  <p>Enter second value:  <input type=*"text"* name=*"num2"* size=*"25"*></p>  <br>  <b>Seclect your choice:</b><br>  <input type=*"radio"* name=*"group1"* value =*"add"*>Addition<br>  <input type=*"radio"* name=*"group1"* value =*"sub"*>Subtraction<br>  <input type=*"radio"* name=*"group1"* value =*"multi"*>Multiplication<br>  <input type=*"radio"* name=*"group1"* value =*"div"*>Division<br>  <p>  <input type=*"submit"* value=*"Submit"*>  <input type=*"reset"* value=*"Reset"*></p>  </form>  </body>  </html> |

**B. index.jsp**

|  |
| --- |
| <%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*  pageEncoding=*"UTF-8"*%>  <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">  <html>  <head>  <meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>  <title>Insert title here</title>  </head>  <body>  </body>  </html> |

**C. WebClient.jsp**

|  |
| --- |
| <%@ page contentType=*"text/html; charset=UTF-8"* %>  <%@ page import=*"javax.ejb.Stateless.\*,*  *javax.naming.\*"*%>  <%@ page import=*"net.roseindia.ejb3.stateless.\*"*%>  <%@page import=*"java.util.Properties"* %>  <%!  **private** CalculatorLocal calculator = **null**;  **float** result=0;      **public** **void** jspInit() {  **try** {    InitialContext ic = **new** InitialContext();      CalculatorHome lHome = (CalculatorHome) ic.lookup("CalculatorBean");  calculator=lHome.create();  //EAP 6 & 7  //calculator = (CalculatorRemote) ic.lookup("java:global/exampleweb/CalculatorBean!net.roseindia.ejb3.stateless.CalculatorRemote");  //calculator = (CalculatorRemote) ic.lookup("java:module/CalculatorBean");  //EAP 5  //calculator = (CalculatorRemote) ic.lookup("CalculatorBean/local");        System.out.println("Loaded Calculator Bean");  //CalculatorBean  } **catch** (Exception ex) {  System.out.println("Error:"+  ex.getMessage());  }  }  **public** **void** jspDestroy() {  calculator = **null**;  }  %>  <%  **try** {  String s1 = request.getParameter("num1");  String s2 = request.getParameter("num2");  String s3 = request.getParameter("group1");  System.out.println(s3);  **if** ( s1 != **null** && s2 != **null** ) {  Float num1 = **new** Float(s1);  Float num2 = **new** Float(s2);    **if**(s3.equals("add"))  result=calculator.add(num1.floatValue(),  num2.floatValue());  **else** **if**(s3.equals("sub"))  result=calculator.subtract(num1.floatValue(),  num2.floatValue());  **else** **if**(s3.equals("multi"))  result=calculator.multiply(num1.floatValue(),  num2.floatValue());  **else**  result=calculator.division(num1.floatValue(),  num2.floatValue());    %>  <p>  <b>The result is:</b> <%= result %>  <p>    <%  }  }// end of try  **catch** (Exception e) {  e.printStackTrace ();  //result = "Not valid";  }  %> |

**Simple Calculator Project in JBOSS EAP 6 :**

**1. example.jar**

**A. CalculatorBean.java**

|  |
| --- |
| package net.roseindia.ejb3.stateless;  import java.math.\*;  import java.rmi.RemoteException;  import javax.ejb.\*;  public class CalculatorBean implements CalculatorLocal  {  /\*  @Override  public void setSessionContext(SessionContext ctx)  {  }  public void ejbCreate() throws CreateException  {    System.out.println("EJB CREATED");  }  \*/  public float add(float x, float y)  {  return x + y;  }  public float subtract(float x, float y)  {  return x - y;  }  public float multiply(float x, float y)  {  return x \* y;  }  public float division(float x, float y)  {  return x / y;  }  @Override  public EJBLocalHome getEJBLocalHome() throws EJBException {  // TODO Auto-generated method stub  return null;  }  @Override  public Object getPrimaryKey() throws EJBException {  // TODO Auto-generated method stub  return null;  }  @Override  public boolean isIdentical(EJBLocalObject arg0) throws EJBException {  // TODO Auto-generated method stub  return false;  }  @Override  public void remove() {  // TODO Auto-generated method stub    }  } |

**B. CalculatorLocal.java**

|  |
| --- |
| **package** net.roseindia.ejb3.stateless;  **import** java.math.\*;  **import** javax.ejb.Remote;  **import** java.lang.annotation.\*;  **import** java.util.\*;  **import** javax.ejb.\*;  **import** java.rmi.\*;  **public** **interface** CalculatorLocal **extends** javax.ejb.EJBLocalObject  {  **public** **float** add(**float** x, **float** y);  **public** **float** subtract(**float** x, **float** y);  **public** **float** multiply(**float** x, **float** y);  **public** **float** division(**float** x, **float** y);    **public** EJBLocalHome getEJBLocalHome();    **public** Object getPrimaryKey();    **public** **boolean** isIdentical(EJBLocalObject arg0);      **public** **void** remove();    } |

**C. CalculatorHome.java**

|  |
| --- |
| package net.roseindia.ejb3.stateless;  import javax.ejb.CreateException;  import javax.ejb.EJBLocalHome;  import javax.ejb.SessionBean;  import javax.ejb.EJBHome;  import javax.ejb.\*;  public interface CalculatorHome extends javax.ejb.EJBLocalHome  {  public CalculatorLocal create() throws CreateException;  } |

**D. jboss-ejb3.xml**

|  |
| --- |
| <?xml version=*"1.1"* encoding=*"UTF-8"*?>  <jboss:ejb-jar xmlns:jboss=*"http://www.jboss.com/xml/ns/javaee"*  xmlns=*"http://java.sun.com/xml/ns/javaee"*  xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*  xsi:schemaLocation=*"http://www.jboss.com/xml/ns/javaee http://www.jboss.org/j2ee/schema/jboss-ejb3-2\_0.xsd*  *http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/ejb-jar\_3\_1.xsd*  *http://www.jboss.org/j2ee/schema/jboss\_5\_0.xsd"*  version=*"3.1"*  impl-version=*"2.0"*>  <enterprise-beans>  <session>  <ejb-name>CalculatorBean</ejb-name>  <ejb-ref>  <ejb-ref-name>CalculatorBean</ejb-ref-name>  <jndi-name>java:global/calc1/example/CalculatorBean!net.roseindia.ejb3.stateless.CalculatorLocal</jndi-name>  </ejb-ref>  </session>    </enterprise-beans>  </jboss:ejb-jar> |

**E. ejb-jar.xml**

|  |
| --- |
| <?xml version="1.0" encoding="UTF-8"?>  <!DOCTYPE ejb-jar PUBLIC "-//Sun Microsystems, Inc.//DTD Enterprise JavaBeans 2.0//EN" "http://java.sun.com/dtd/ejb-jar\_2\_0.dtd">  <ejb-jar >  <description>calculator modules</description>  <display-name>calculator Modules</display-name>  <enterprise-beans>  <session >  <description>This claculator Application</description>  <ejb-name>CalculatorBean</ejb-name>  <local-home>net.roseindia.ejb3.stateless.CalculatorHome</local-home>  <local>net.roseindia.ejb3.stateless.CalculatorLocal</local>  <ejb-class>net.roseindia.ejb3.stateless.CalculatorBean</ejb-class>  <session-type>Stateless</session-type>  <transaction-type>Container</transaction-type>  <ejb-local-ref >  <ejb-ref-name>CalculatorBean</ejb-ref-name>  <ejb-ref-type>Session</ejb-ref-type>  <local-home>net.roseindia.ejb3.stateless.CalculatorHome</local-home>  <local>net.roseindia.ejb3.stateless.CalculatorLocal</local>  </ejb-local-ref>  </session>    <!--  To add session beans that you have deployment descriptor info for, add  a file to your merge directory called session-beans.xml that contains  the <session></session> markup for those beans.  -->  <!-- Entity Beans -->  <!--  To add entity beans that you have deployment descriptor info for, add  a file to your merge directory called entity-beans.xml that contains  the <entity></entity> markup for those beans.  -->  <!-- Message Driven Beans -->  <!--  To add message driven beans that you have deployment descriptor info for, add  a file to your merge directory called message-driven-beans.xml that contains  the <message-driven></message-driven> markup for those beans.  -->      </enterprise-beans>  <!-- Relationships -->  <!-- Assembly Descriptor -->  <assembly-descriptor >  <!-- finder permissions -->  <!-- transactions -->  <container-transaction >  <method >  <ejb-name>CalculatorBean</ejb-name>  <method-name>\*</method-name>  </method>  <trans-attribute>Required</trans-attribute>  </container-transaction>    <!-- finder transactions -->  </assembly-descriptor>  </ejb-jar> |

**2. exampleweb.war**

**A. web.xml**

|  |
| --- |
| <?xml version=*"1.0"* encoding=*"UTF-8"*?>  <web-app xmlns=*"http://java.sun.com/xml/ns/j2ee"*  xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*  xsi:schemaLocation=*"http://java.sun.com/xml/ns/j2ee http://java.sun.com/xml/ns/j2ee/web-app\_2\_4.xsd"*  version=*"2.4"*>  <display-name>Calc Application</display-name>  <welcome-file-list>  <welcome-file>form.jsp</welcome-file>  </welcome-file-list>  <ejb-local-ref >  <ejb-ref-name>CalculatorBean</ejb-ref-name>  <ejb-ref-type>Session</ejb-ref-type>  <local-home>net.roseindia.ejb3.stateless.CalculatorHome</local-home>  <local>net.roseindia.ejb3.stateless.CalculatorLocal</local>  </ejb-local-ref>  </web-app> |

**B. WebClient.jsp**

|  |
| --- |
| <%@ page contentType=*"text/html; charset=UTF-8"* %>  <%@ page import=*"javax.ejb.Stateless.\*,*  *javax.naming.\*"*%>  <%@ page import=*"net.roseindia.ejb3.stateless.\*"*%>  <%@page import=*"java.util.Properties"* %>  <%!  **private** CalculatorLocal calculator = **null**;  **float** result=0;      **public** **void** jspInit() {  **try** {    InitialContext ic = **new** InitialContext();  Context ejbCtx = (Context) ic.lookup("java:comp/env");  CalculatorHome lHome = (CalculatorHome) ejbCtx.lookup("CalculatorBean");  calculator=lHome.create();    //EAP 6 & 7  //calculator = (CalculatorRemote) ic.lookup("java:global/exampleweb/CalculatorBean!net.roseindia.ejb3.stateless.CalculatorRemote");  //calculator = (CalculatorRemote) ic.lookup("java:module/CalculatorBean");  //EAP 5  //calculator = (CalculatorRemote) ic.lookup("CalculatorBean/local");        System.out.println("Loaded Calculator Bean");  //CalculatorBean  } **catch** (Exception ex) {  System.out.println("Error:"+  ex.getMessage());  }  }  **public** **void** jspDestroy() {  calculator = **null**;  }  %>  <%  **try** {  String s1 = request.getParameter("num1");  String s2 = request.getParameter("num2");  String s3 = request.getParameter("group1");  System.out.println(s3);  **if** ( s1 != **null** && s2 != **null** ) {  Float num1 = **new** Float(s1);  Float num2 = **new** Float(s2);    **if**(s3.equals("add"))  result=calculator.add(num1.floatValue(),  num2.floatValue());  **else** **if**(s3.equals("sub"))  result=calculator.subtract(num1.floatValue(),  num2.floatValue());  **else** **if**(s3.equals("multi"))  result=calculator.multiply(num1.floatValue(),  num2.floatValue());  **else**  result=calculator.division(num1.floatValue(),  num2.floatValue());    %>  <p>  <b>The result is:</b> <%= result %>  <p>    <%  }  }// end of try  **catch** (Exception e) {  e.printStackTrace ();  //result = "Not valid";  }  %> |

**2. exampleweb.war**

**A. WebClient.jsp**

|  |
| --- |
| <%@ page contentType=*"text/html; charset=UTF-8"* %>  <%@ page import=*"javax.ejb.Stateless.\*,*  *javax.naming.\*"*%>  <%@ page import=*"net.roseindia.ejb3.stateless.\*"*%>  <%@page import=*"java.util.Properties"* %>  <%!  **private** CalculatorLocal calculator = **null**;  **float** result=0;  **public** **void** jspInit() {  **try** {    InitialContext ic = **new** InitialContext();  Context ejbCtx = (Context) ic.lookup("java:comp/env");  CalculatorHome lHome = (CalculatorHome) ejbCtx.lookup("CalculatorBean");  calculator=lHome.create();    System.out.println("Loaded Calculator Bean");  //CalculatorBean  } **catch** (Exception ex) {  System.out.println("Error:"+  ex.getMessage());  }  }  **public** **void** jspDestroy() {  calculator = **null**;  }  %>  <%  **try** {  String s1 = request.getParameter("num1");  String s2 = request.getParameter("num2");  String s3 = request.getParameter("group1");  System.out.println(s3);  **if** ( s1 != **null** && s2 != **null** ) {  Float num1 = **new** Float(s1);  Float num2 = **new** Float(s2);    **if**(s3.equals("add"))  result=calculator.add(num1.floatValue(),  num2.floatValue());  **else** **if**(s3.equals("sub"))  result=calculator.subtract(num1.floatValue(),  num2.floatValue());  **else** **if**(s3.equals("multi"))  result=calculator.multiply(num1.floatValue(),  num2.floatValue());  **else**  result=calculator.division(num1.floatValue(),  num2.floatValue());    %>  <p>  <b>The result is:</b> <%= result %>  <p>    <%  }  }// end of try  **catch** (Exception e) {  e.printStackTrace ();  //result = "Not valid";  }  %> |

**B. from.jsp (no change)**

|  |
| --- |
| <html>  <head>  <title>Calculator</title>  </head>  <body bgcolor=*"pink"*>  <h1>Calculator</h1>  <hr>  <form action=*"WebClient.jsp"* method=*"POST"*>  <p>Enter first value:  <input type=*"text"* name=*"num1"* size=*"25"*></p>  <br>  <p>Enter second value:  <input type=*"text"* name=*"num2"* size=*"25"*></p>  <br>  <b>Seclect your choice:</b><br>  <input type=*"radio"* name=*"group1"* value =*"add"*>Addition<br>  <input type=*"radio"* name=*"group1"* value =*"sub"*>Subtraction<br>  <input type=*"radio"* name=*"group1"* value =*"multi"*>Multiplication<br>  <input type=*"radio"* name=*"group1"* value =*"div"*>Division<br>  <p>  <input type=*"submit"* value=*"Submit"*>  <input type=*"reset"* value=*"Reset"*></p>  </form>  </body>  </html> |

**C. index.jsp(no change)**

|  |
| --- |
| <%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*  pageEncoding=*"UTF-8"*%>  <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">  <html>  <head>  <meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>  <title>Insert title here</title>  </head>  <body>  </body>  </html> |

**D. web.xml**

|  |
| --- |
| <?xml version=*"1.0"* encoding=*"UTF-8"*?>  <web-app xmlns=*"http://java.sun.com/xml/ns/j2ee"*  xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"*  xsi:schemaLocation=*"http://java.sun.com/xml/ns/j2ee http://java.sun.com/xml/ns/j2ee/web-app\_2\_4.xsd"*  version=*"2.4"*>  <display-name>Calc Application</display-name>  <welcome-file-list>  <welcome-file>form.jsp</welcome-file>  </welcome-file-list>  <ejb-local-ref >  <ejb-ref-name>CalculatorBean</ejb-ref-name>  <ejb-ref-type>Session</ejb-ref-type>  <local-home>net.roseindia.ejb3.stateless.CalculatorHome</local-home>  <local>net.roseindia.ejb3.stateless.CalculatorLocal</local>  </ejb-local-ref>  </web-app> |

**Note: Always create .ear file of ejb application which contain .jar and .war files.**